

## Chapter S: Summary

### S.1 Description of Proposed Action

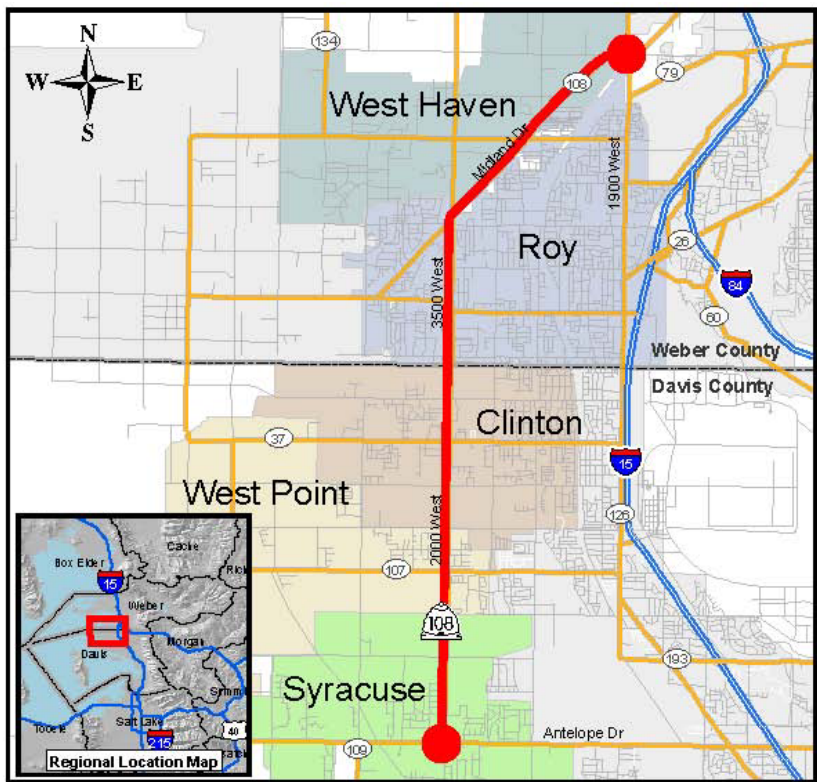
State Route 108 (S.R. 108) is a two-lane road from Antelope Drive (S.R. 127) in Syracuse to 1900 West (S.R. 126) in West Haven, a distance of 9.5 miles (see Exhibit S.1-1). S.R. 108 provides important access between the cities of Syracuse, West Point, Clinton, Roy, and West Haven. S.R. 108 also provides city residents with access to Interstate 15 (I-15), the only major interstate in the study area, via Antelope Drive to the southeast and access to employment and commercial areas in Ogden to the northeast.

S.R. 108 is the only continuous north-south connector west of I-15 in the study area. In addition, S.R. 108 provides connectivity to major east-west roads such as Antelope Drive (S.R. 127) in Syracuse, S.R. 107 in West Point, and S.R. 37 in Clinton.

#### Why is S.R. 108 being evaluated?

The communities around the S.R. 108 corridor are growing, which is leading to heavy congestion on S.R. 108. Congestion will continue to worsen if no improvements are made to the transportation system. In addition, the existing roadway has insufficient shoulders and sidewalks and lacks transit and bicycle facilities.

**Exhibit S.1-1: S.R. 108 Study Area**





There are several roadway deficiencies on S.R. 108. In addition, traffic congestion levels are increasing on the roadway due to the growth of the cities along S.R. 108. The roadway needs to be improved to meet current design and safety standards and to maintain local and regional mobility. The purpose of the alternatives developed and evaluated in this Environmental Impact Statement (EIS) is to provide a solution to meet the long-term transportation needs in the project study area through the year 2035. Specifically, the purpose of the project is to:

- Reduce roadway congestion on S.R. 108.
- Eliminate the roadway deficiencies associated with a lack of shoulders and turn lanes in order to reduce accident rates on S.R. 108.
- Enhance the opportunities for multi-modal use of S.R. 108 by providing improved bicycle, pedestrian, and transit facilities consistent with local and regional land use and transportation plans.

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**What is the purpose of the S.R. 108 project?**

The purpose of the S.R. 108 project is to reduce roadway congestion; improve safety; and enhance transit, pedestrian, and bicycle facilities.

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## **S.2 Other Major Actions**

Several other proposed actions would involve connecting to a portion of S.R. 108 and are described in more detail in Section 1.3.4, Related Projects, in Chapter 1, Purpose of and Need for Action. These actions and the completed associated environmental documents include the following:

- **Syracuse Road; 1000 West to 2000 West, Syracuse, Final Environmental Impact Statement and Section 4(f) Evaluation (UDOT 2006b).** Widen Syracuse Road from two to four travel lanes from 1000 West to 2000 West in Syracuse. Funding for constructing this project has been identified, and construction is expected to start in 2008. The project is currently in the final design phase.
- **S.R. 79; Hinckley Drive Extension to S.R. 108 Ogden, Environmental Assessment (UDOT 2002a).** Provides a new five-lane road between S.R. 108 and Hinckley Drive. Hinckley Drive connects to I-15. Funding for designing and constructing this project has been identified, and the project is currently in the final design phase. Construction could start in 2010.
- **2000 West (S.R. 108) Road Project, Clinton, Utah Categorical Exclusion (CatEX) (UDOT 2005).** This project was identified by the City of Clinton to reduce congestion and improve safety on S.R. 108 by adding a bikeway, shoulders, and center turn lane along S.R. 108 from 1300 North to 2300 North. The project is currently under construction.
- **S.R. 108: Syracuse Road; Clearfield Main Street to 1000 West, Clearfield, Final Environmental Study (UDOT 2002b).** Widen the east-west portion of S.R. 108 (known locally as Syracuse Road/Antelope Drive) from two to four travel lanes with a center turn lane, shoulders, curb, gutter, and sidewalk from Main Street to 1000 West in Clearfield. A traffic signal at 300 West is also included in the project. Construction of this project has been completed.



## S.3 Alternatives Considered

A range of alternatives to consider in this EIS was developed through the National Environmental Policy Act (NEPA) public and agency involvement process.

### S.3.1 Development of the Initial Alternatives

Eight initial alternatives were developed during the scoping phase of the project (see Exhibit S.3-1). These initial alternatives were put through a two-step screening process to determine which alternatives would be carried forward for detailed study.

#### Exhibit S.3-1: Initial Alternatives

Alternative	Description
No-Action	No improvements to S.R. 108 would be made under this alternative except for routine maintenance.
TSM (Transportation System Management)	This alternative consists of timing and coordinating traffic signals along S.R. 108 and adding left-turn and right-turn lanes at key intersections.
Transit Only	This alternative includes the TSM Alternative plus more-frequent bus service. The current bus service (Route 626) operates hourly and would be increased to high-frequency bus service that would operate every 15 minutes. Other modes of transit, such as commuter rail and light rail, were not considered prudent for S.R. 108 because they would not connect to other local or regional fixed-guideway transit such as the proposed commuter rail along I-15 about 3 miles east of S.R. 108. In addition, fixed-guideway transit on S.R. 108 is not compatible with the Utah Transit Authority's (UTA) or the Wasatch Front Regional Council's (WFRC) long-range plans for transit in the area. Bus service on S.R. 108 would connect to UTA's proposed commuter rail line along I-15 into Salt Lake City and would provide the necessary regional connectivity.
Three Lanes	This alternative consists of two travel lanes with a raised center median and dedicated turn lanes. The alternative includes left-turn and right-turn lanes at intersections, appropriate shoulders for local access, and pedestrian, bicycle, and transit facilities.
TSM, Transit Only, and Three Lanes	This alternative is a combination of the TSM, Transit Only, and Three-Lane Alternatives.
Five Lanes	This alternative consists of four travel lanes with a raised center median and dedicated turn lanes at intersections. The alternative includes left-turn and right-turn lanes at intersections, appropriate shoulders for local access, and pedestrian, bicycle, and transit facilities.
Seven Lanes	This alternative consists of six travel lanes with a raised center median and dedicated turn lanes at intersections. The alternative includes left-turn and right-turn lanes at intersections, appropriate shoulders for local access, and pedestrian, bicycle, and transit facilities.
Improve Other Area Roads	This alternative consists of widening 1000 West or 3000 West to five lanes and building the proposed North Legacy Parkway. No improvements to S.R. 108 would be made under this alternative.

### S.3.2 Level 1 Screening

Level 1 screening was performed on the eight initial alternatives (see Exhibit S.3-1: Initial Alternatives above). If an alternative did not meet all three elements of the project's purpose, it was not carried forward for detailed analysis. Alternatives that were considered and eliminated are described in Section 2.1, Alternative Development Process.

As shown in Exhibit S.3-2, there is no initial alternative or combination of the initial alternatives, other than the Five-Lane Alternative, that would meet all of the project's purpose while avoiding the excessive impacts of the Seven-Lane Alternative. Therefore, only the Five-Lane Alternative was carried forward for level 2 screening.

#### Exhibit S.3-2: Evaluation of Alternatives Considered

Purpose Element	Alternative							
	No-Action	TSM	Transit Only	Three Lanes	TSM, Transit Only, and Three Lanes	Five Lanes	Seven Lanes <sup>a</sup>	Improve Other Area Roads
Reduce roadway congestion on S.R. 108.	No	No	No	No	No	Yes	Yes	NA
Eliminate the roadway deficiencies associated with a lack of shoulders and turn lanes in order to reduce accident rates on S.R. 108.	No	No	No	Yes	Yes	Yes	Yes	No
Enhance the opportunities for multi-modal use of S.R. 108 by providing improved bicycle, pedestrian, and transit facilities consistent with local and regional land use and transportation plans.	No	No	Yes	Yes	Yes	Yes	Yes	No

NA = not applicable

<sup>a</sup> The Seven-Lane Alternative was determined to be unreasonable because it would have substantially more impacts to homes (due to relocations) and environmental resources.

### S.3.3 Level 2 Screening

The purpose of level 2 screening was to further refine and develop the alternatives that met all of the project purpose elements in level 1 screening. For this project, the only alternative that passed the level 1 screening was the Five-Lane Alternative. The level 2 screening was conducted to ensure that the alternatives with the least amount of impacts to the communities and the natural environment would be carried forward for detailed study in this EIS and that the alternatives with the greatest impacts would be eliminated.



Five different alignment alternatives were developed and evaluated in more detail to develop a range of reasonable alternatives to be considered in this EIS. The five alignment alternatives represent the different alignment variations that could be implemented under the Five-Lane Alternative. Exhibit S.3-3 describes the five alternatives that were evaluated during level 2 screening.

### Exhibit S.3-3: Preliminary Five-Lane Alternatives

Alternative	Cross-Section Width	Description
Center Alignment	110 feet	Widen the roadway equally to the west and east.
Minimize 4(f) Impacts Alignment	110 feet	Widen the roadway both west and east to minimize Section 4(f) impacts.
Center Meander Alignment	110 feet	Widen the roadway both west and east to minimize overall property impacts, regardless of Section 4(f) status.
East Alignment	110 feet	Widen the roadway primarily to the east.
West Alignment	110 feet	Widen the roadway primarily to the west.

### Why must Section 4(f) properties be avoided?

Section 4(f) is part of an FHWA regulation that requires a project to avoid the use of eligible or potentially eligible historic properties and recreation and wildlife areas unless there is no feasible and prudent alternative to such use. Even then, all measures must be taken to minimize harm to these properties.

The five preliminary alternatives were evaluated against the screening criteria in Section 2.1.3.2, Evaluation of the Preliminary Five-Lane Alternatives. The screening criteria included relocations, potential relocations, total property impacts, and impacts to Section 4(f) properties, farmland, and wetlands. Exhibit S.3-4 provides a summary of the impacts from the preliminary five-lane alternatives.

### Exhibit S.3-4: Summary of Impacts from the Preliminary Five-Lane Alternatives

Alternative	Number of Relocations <sup>a</sup>	Number of Potential Relocations <sup>a</sup>	Number of Strip Takes	Total Property Impacts <sup>b</sup>	Number of 4(f) Uses (Adverse)	Number of APAs Affected <sup>c</sup>	Acres of Wetlands Lost
Center Alignment	31	133	299	463	27	4	0.025
Minimize 4(f) Impacts Alignment	61	47	246	354	14	4	0.025
Center Meander Alignment	42	93	244	379	25	4	0.025
East Alignment	147	42	87	276	33	2	0.039
West Alignment	108	57	167	332	22	2	0.025

<sup>a</sup> Includes residential and commercial.

<sup>b</sup> Includes relocations, potential relocations, and strip takes.

<sup>c</sup> Agriculture Protection Areas (APAs) are geographic areas where agricultural activities are given special protections.

Based on the screening criteria, the Center, Center Meander, and East Alignments were eliminated from further study based on relocations, property impacts, and Section 4(f) impacts. Because the Minimize 4(f) Impacts and West Alignments had the fewest relocations, property impacts, and Section 4(f) impacts, they were carried forward for detailed study. The alternatives that were carried forward are described below and in Section 2.2, Alternatives Considered for Detailed Study.

### **S.3.4 Alternatives Evaluated in Detail**

The EIS evaluates three alternatives in detail: the No-Action Alternative, the Minimize 4(f) Impacts Alternative, and the West Alternative.

The Draft EIS assumed the connection from S.R. 108 to Hinckley Drive to be an extension of S.R. 108 without traffic signals and assumed that the segment of S.R. 108 from 3600 South to 1900 West would be blocked off. Under this scenario, the segment of S.R. 108 north of 3600 South in West Haven would operate at a level of service of LOS B, so no roadway improvements would be needed to meet the projected traffic in 2035. (For a description of level of service, see Section 1.4.3, Current and Future Traffic Congestion.)

After the Draft EIS was released, UDOT modified this connection to become a traffic signal with an intersection design that would allow access to S.R. 108 north of 3600 South. As a result, further travel demand modeling showed that the segment of S.R. 108 from 3600 South to 1900 West would need to be improved from a two-lane road to a five-lane road and would have a level of service of LOS B. The improvements to S.R. 108 from 3600 South to 1900 West (a distance of about 1.5 miles) have been included in this Final EIS under the action alternatives.

#### **S.3.4.1 No-Action Alternative**

NEPA requires an analysis of the No-Action Alternative. This alternative serves as a baseline so that decision-makers can compare the environmental effects of the action alternatives.

If the No-Action Alternative is selected, no improvements to S.R. 108 or adjacent transportation facilities would be made other than those improvements already identified in the WFRC long-range

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#### **Which alternatives were carried forward for detailed study in this EIS?**

The three alternatives carried forward for detailed study in this EIS are the No-Action Alternative, the Minimize 4(f) Impacts Alternative, and the West Alternative. The Minimize 4(f) Impacts Alternative and the West Alternative would both widen S.R. 108 to five lanes (four travel lanes with either a two-way left-turn lane or a raised center median).

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plan to enhance mobility in the area. These activities, which might have some environmental impacts, would be evaluated in a separate document.

If no action is taken on S.R. 108, the Utah Department of Transportation (UDOT) and the cities would likely continue to make minor maintenance improvements such as rehabilitating pavement and improving shoulders, turn lanes, sidewalks, and curb and gutter. The cities might require developers to provide some of these improvements as part of any new development along S.R. 108. Overall, the basic two-lane configuration of S.R. 108 would not change under the No-Action Alternative.

#### **S.3.4.2 Minimize 4(f) Impacts Alternative (Preferred Alternative)**

The Minimize 4(f) Impacts Alternative involves widening S.R. 108 to a 110-foot, five-lane cross-section. In order to minimize the use of Section 4(f) properties, the alignment varies between the center alignment, west alignment, and east alignment. The main features of this alternative are four 12-foot travel lanes, a 14-foot median (either a two-way left-turn lane or a raised center median), 8-foot shoulders, 4-foot bicycle lanes, 2.5-foot curb and gutter, 4.5-foot park strips, 4-foot sidewalks, and 1 foot between the back of the sidewalk and the edge of the right-of-way.

Although the exact location of raised medians would be determined during the final design of the project, raised medians would be considered in high-traffic areas such as commercial districts to improve safety. Appropriate stormwater detention basins and utility relocations would be included with this alternative.

#### **S.3.4.3 West Alternative**

The West Alternative also involves widening S.R. 108 to a 110-foot, five-lane cross-section. The centerline of this alignment is located such that the proposed right-of-way line along the east side of S.R. 108 matches the existing right-of-way line along the east side of S.R. 108. Due to this design, the alignment misses all properties on the east side of S.R. 108. Other design features would be the same as those described above for the Minimize 4(f) Impacts Alternative.

## S.4 Summary of Environmental Impacts

Exhibit S.4-1 lists the major advantages and disadvantages of each alternative that was evaluated in detail. Exhibit S.4-2 below summarizes the specific environmental impacts for each alternative. For detailed information about the environmental impacts of the alternatives, see Chapter 4, Environmental Consequences.

**Exhibit S.4-1: Primary Advantages and Disadvantages of the Alternatives**

Alternative	Primary Advantages	Primary Disadvantages
No-Action Alternative	<ul style="list-style-type: none"> <li>Few environmental impacts because no major improvements would be made to S.R. 108 to reduce congestion, eliminate roadway deficiencies, or improve safety.</li> </ul>	<ul style="list-style-type: none"> <li>Would not be consistent with local or regional land use and transportation plans.</li> <li>Loss of business from continued heavy congestion on S.R. 108.</li> <li>Greatest number of residences with noise levels above the noise-abatement criterion (347).</li> <li>Does not provide bicycle lanes, sidewalks, or transit facilities.</li> <li>S.R. 108 would continue to operate at unacceptable levels of service.</li> </ul>
Minimize 4(f) Impacts Alternative (Preferred Alternative)	<ul style="list-style-type: none"> <li>Least amount of farmland lost (26.1 acres).</li> <li>Least amount of land converted to roadway use (33 acres).</li> <li>Fewest total residential relocations (55).</li> <li>Fewest business relocations (6).</li> <li>Fewest potentially eligible architectural historic properties that would be adversely affected (14).</li> <li>Fewest Section 4(f) properties used (14).</li> <li>Lowest cost of the action alternatives.</li> </ul>	<ul style="list-style-type: none"> <li>Greatest number of Agriculture Protection Areas (APAs) affected (4).</li> <li>Second-greatest number of residences with noise levels above the noise-abatement criterion (300).</li> </ul>
West Alternative	<ul style="list-style-type: none"> <li>Fewest number of APAs affected (2).</li> <li>Fewest number of residences with noise levels above the noise-abatement criterion (250).</li> </ul>	<ul style="list-style-type: none"> <li>Greatest amount of farmland lost (27.9 acres).</li> <li>Greatest amount of land converted to roadway use (38 acres).</li> <li>Greatest number of residential relocations (96).</li> <li>Greatest number of business relocations (12).</li> <li>Greatest number of potentially eligible architectural historic properties that would be adversely affected (22).</li> <li>Greatest number of Section 4(f) properties used (22).</li> <li>Highest cost of the action alternatives.</li> </ul>



## Exhibit S.4-2: Comparison of Environmental Impacts

Resource Category	No-Action Alternative	Minimize 4(f) Impacts Alternative	West Alternative
<b>Land Use</b>	The area would continue to develop from more rural uses to urban in accordance with local and regional land use and transportation plans. The alternative would not be consistent with local land use and transportation plans that recommend widening S.R. 108.	About 33 acres of land converted to roadway use. The alternative would be consistent with local and regional land use and transportation plans.	About 38 acres of land converted to roadway use. The alternative would be consistent with local and regional land use and transportation plans.
<b>Farmland</b>	No impacts from roadway improvements. Continued commercial and residential development would result in the loss of farmland along S.R. 108.	About 26.1 acres of farmland lost. 4 APAs affected. Total APA loss would be 3 acres.	About 27.9 acres of farmland lost. 2 APAs affected. Total APA loss would be less than 2 acres.
<b>Social Environment</b>	Increases in roadway congestion would continue to concern area residents. No other impacts to the social environment would occur.	No adverse impacts to community cohesion or quality of life. No impacts to recreation facilities. Minor right-of-way impacts to 4 community facilities. Reduced congestion would improve local and regional emergency response. No adverse impacts to pedestrian safety. 55 residential and 6 business relocations. 38 potential residential and 9 potential business relocations.	Same as the Minimize 4(f) Impacts Alternative except there would be minor right-of-way impacts to 3 community facilities, 96 residential and 12 business relocations, and 47 potential residential and 10 potential business relocations.
<b>Environmental Justice Populations</b>	No disproportionately high and adverse impacts on any environmental justice populations.	No disproportionately high and adverse impacts on any environmental justice populations.	Same as the Minimize 4(f) Impacts Alternative.
<b>Transportation</b>	S.R. 108 would continue to operate at unacceptable congestion levels (a level of service of LOS F).	S.R. 108 would operate at acceptable levels of service (LOS D or better). Improvements to S.R. 108 would have similar impacts to other adjoining roads as the No-Action Alternative.	Same as the Minimize 4(f) Impacts Alternative.
<b>Economics</b>	Businesses could lose some revenue as shoppers use alternate, less-congested commercial districts in the region.	Improvements would benefit the local economy by reducing congestion, improving safety, and making businesses more accessible. 6 businesses would be relocated and 9 businesses would be potentially relocated due to proximity impacts.	Improvements would benefit the local economy by reducing congestion, improving safety, and making businesses more accessible. 12 businesses would be relocated and 10 businesses would be potentially relocated due to proximity impacts.
<b>Joint Development</b>	No opportunity to improve S.R. 108 in conjunction with the City of Clinton plans to build a pedestrian underpass across S.R. 108.	Potential for joint development of proposed City of Clinton underpass across S.R. 108.	Same as the Minimize 4(f) Impacts Alternative.



Resource Category	No-Action Alternative	Minimize 4(f) Impacts Alternative	West Alternative
<b>Pedestrian and Bicyclist Resources</b>	S.R. 108 would continue to operate without bicycle lanes, complete sidewalks, and bus pullouts.	Improvements would include bicycle lanes, sidewalks, and transit facilities. No impact to existing or proposed trails that intersect S.R. 108.	Same as the Minimize 4(f) Impacts Alternative.
<b>Air Quality</b>	The 1-hour and 8-hour carbon monoxide (CO) standards would not be exceeded. No impacts to the particulate matter (PM <sub>10</sub> ) non-attainment area in Ogden.	The 1-hour and 8-hour CO standards would not be exceeded. No impacts to the PM <sub>10</sub> non-attainment area in Ogden.	Same as the Minimize 4(f) Impacts Alternative.
<b>Noise</b>	Residential noise-abatement criterion would be exceeded at 347 residences.	Residential noise-abatement criterion would be exceeded at 300 residences.	Residential noise-abatement criterion would be exceeded at 250 residences.
<b>Water Quality</b>	Stormwater runoff would flow directly into adjacent sloughs and canals without detention basins. Water quality standards would not be exceeded.	Stormwater runoff would be controlled through use of detention basins. No impacts to surface or groundwater quality beneficial uses or standards.	Same as the Minimize 4(f) Impacts Alternative.
<b>Ecosystems (Wildlife, Threatened and Endangered Species, Wetlands)</b>	No impacts to threatened and endangered species or wetlands. Continued urban development would result in loss of agriculture-related wildlife habitat.	Minor impact to agriculture-related wildlife habitat. No impact to threatened and endangered species or wetlands. Loss of 1 acre of drainage ditches and 0.025 acre of wetlands.	Same as the Minimize 4(f) Impacts Alternative.
<b>Floodplains</b>	No impact.	No impact.	No impact.
<b>Historic, Archaeological, and Paleontological Resources</b>	No impacts to historic, archaeological, or paleontological resources.	Adverse impact to 14 architectural properties that are eligible for the National Register of Historic Places (NRHP). No impacts to archaeological or paleontological resources.	Adverse impact to 22 architectural properties that are eligible for the NRHP. No impacts to archaeological or paleontological resources.
<b>Hazardous Waste Sites</b>	No hazardous waste sites affected.	Could affect 7 sites that might contain hazardous materials or waste.	Same as the Minimize 4(f) Impacts Alternative.
<b>Visual Resources</b>	No impact. Continued change from more rural to urban environment.	No substantial changes to the urban nature of the visual environment.	Same as the Minimize 4(f) Impacts Alternative.
<b>Section 4(f) Properties</b>	No impact.	14 Section 4(f) properties used.	22 Section 4(f) properties used.



## **S.5 Basis for Identifying the Preferred Alternative**

The Minimize 4(f) Impacts Alternative was identified by FHWA and UDOT as the Preferred Alternative based on public input during the scoping process, based on the alternative's ability to meet the elements of the project's purpose, and because the alternative minimizes impacts to Section 4(f) properties as well as overall residential and business relocations.

During the EIS scoping process, the public and the resource agencies were asked to provide input on potential issues and alternatives to be considered in the EIS. Most people who provided comments noted that something needed to be done to improve S.R. 108. Of those comments, most stated that widening S.R. 108 was an appropriate solution.

As part of the process for identifying the Preferred Alternative, UDOT met with planners, managers, and engineers from all five cities along S.R. 108, presented the Minimize 4(f) Impacts and West Alternatives to them, and explained how the alternatives would affect their cities. City officials from all five cities said that the Minimize 4(f) Impacts Alternative met their city's plans and objectives.

Both the Minimize 4(f) Impacts and West Alternatives meet the three elements of the project's purpose described in Section 1.2.1, Purpose of the Project. However, as noted above in Exhibit S.4-1: Primary Advantages and Disadvantages of the Alternatives, this alternative would meet those objectives while requiring the least amount of land to be converted to roadway use. This alternative also meets the project's purpose with fewer residential and business relocations and fewer impacts to Section 4(f) properties.

The environmental impacts of the two action alternatives were compared according to the resource categories analyzed in this EIS. The comparison of alternatives in Exhibit S.4-2: Comparison of Environmental Impacts above shows that the impacts from the action alternatives would be the same or very similar for most resources. The action alternatives differ primarily in terms of their right-of-way, relocations, and Section 4(f) impacts.

Based on this information, the Minimize 4(f) Impacts Alternative was identified as the Preferred Alternative for the following reasons:

- It requires less land to be converted to roadway use.
- It has fewer uses of Section 4(f) properties.
- It requires fewer residential and business relocations.
- It has the lowest cost.
- It has the least impact to farmland.

## **S.6 Areas of Controversy**

No areas of controversy for implementing the S.R. 108 improvements have been identified.

## **S.7 Major Unresolved Issues**

There are no major unresolved issues with government agencies.

## **S.8 Required Federal Actions**

The following federal actions would be required for the proposed S.R. 108 project:

- Section 106 Agreement/Concurrence (Federal Highway Administration consultation with Utah State Historic Preservation Officer)
- Section 309 Review (U.S. Environmental Protection Agency)



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